Shellfish Stock Enhancement Project Update 6/30/06

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Introduction

The Shellfish Stock Enhancement project's purpose is to restore and enhance existing populations of soft-shell clams in six Boston Harbor communities through cooperative programs/projects with local municipalities with funding and technical assistance from *MarineFisheries*. *Mya arenaria* (soft-shell clams) was identified as the impacted species from the construction of the pipeline along the near shore areas. These Boston Harbor shellfishermen have suffered from declining harvest for more than a decade due to poor larval recruitment and settlement of veligers. Heavy "digging" pressure and changes to localized water quality, ie (turbity, salinity, temperature, etc) have compounded *M. arenaria*'s recruitment.

Stock enhancement and propagation in PROHIBITED/CLOSED areas is contrary to the National Shellfish Sanitation Program (NSSP) due to public health and law enforcement concerns. In fact, the Interstate Shellfish Sanitation Committee (ISSC) and FDA recommends stock depletion in long term, prohibited areas. For these reasons, shellfish propagation and stock enhancement is limited to OPEN areas of Boston Harbor. Also, due to state regulations, shellfish aquaculture is precluded from existing productive areas. Optimal sites are historic habitat but currently unproductive. Due to these constraints, available sites are limited.

Personnel Status

MarineFisheries hired Denis Nault as the Shellfish Restoration Biologist starting September 19, 2005 and his last day was February 17, 2006. Thomas Shields was hired and started June 5, 2006 as the new project biologist. The role of the project Biologist is to serve as Project Leader managing funds and providing technical assistance on shellfish propagation to the municipalities.

2006 Growing Season

December 2005, research/pilot projects utilizing hatchery-reared soft-shell clam seed were proposed in the communities of Hingham, Quincy and Weymouth. Seed clams are being planted and protected using predator control netting. These research plots will provide data to better target propagation/enhancement methods for neighboring Boston Harbor municipalities. In January 2006, *MarineFisheries* contracted with Salem State College (SSC) Northeast Massachusetts Aquaculture Center (NEMAC) to produce 1.05 million seed (3-6mm shell length) for the 3 communities (approximately 350,000 seed clams per community)[1]. In February 2006, personnel turnover left the project without a manager going into the growing season. Consequently, a second contract was developed with SSC to provide labor, oversight, and technical assistance for planting the seed and monitoring grow-out of the clams over the summer and into the fall 2006[2].

A subsequent planning meeting with local Shellfish Constables[3] finalized the research/pilot projects, identified potential sites and scheduled site-selection visits for each community. In April and May site visits selected 1 site in Quincy, 2 sites in Weymouth and 2 sites in Hingham for the projects. Standard Contracts were developed and signed with Hingham and Weymouth for labor to plant clams.

Status

[1] Salem State College, *Production of Soft-shell clams Mya arenaria for HUB Line Remediation, Joseph K. Buttner& Mark Fregeau, Northeastern Massachusetts Aquaculture Center/Salem State College, January 2006.*

[2] Salem State College, *Stocking and Monitoring of Soft-shell clams Mya arenaria for HUB Line Remediation*, Joseph K. Buttner& Mark Fregeau, Northeastern Massachusetts Aquaculture Center/Salem State College, February 2007.

[3] Andy Ayer, Quincy Shellfish Constable; Ray Nash, Weymouth Deputy Shellfish Constable; John Souther, Hingham Shellfish Constable.

The first planting occurred May 20 with approximately 30,000 (4mm to 6mm) clams planted in 3 runs in Broad Cove, Hingham Harbor. Hingham High School students volunteered to assist in planting as part of a community service day school requirement. Each net[4] run was approximately 8'x52', with approximately 300 ft^2 of planted habitat. Seed densities ranged from 20-40 clams per ft^2. The next planting is scheduled for Hingham on 22 June, 2006 utilizing *MarineFisheries*-permitted Master and Subordinate Diggers.

Dates for seed release for Quincy and Weymouth have not yet been set. Monitoring of seed survival and growth will be conducted by SSC with oversight and assistance by the *MarineFisheries* project leader. Netting will be removed in November prior to ice-up.

2007 Growing Season

2007 season projects will be developed during the fall of 2006 expanding on existing projects in Hingham, Quincy and Weymouth and adding projects on shellfish flats in Hull and Boston/Winthrop. Once more, plans will be developed to maximize a communities' needs with consideration of their ability to manage projects. All restoration and propagation projects will take place in Conditionally Restricted Areas in the "open" status as recommended by the Interstate Shellfish Sanitation Conference (ISSC) Guide to the Handling and Harvest of Molluscan Shellfish.

[4] InterNet ¼"x ¼" extruded plastic netting.